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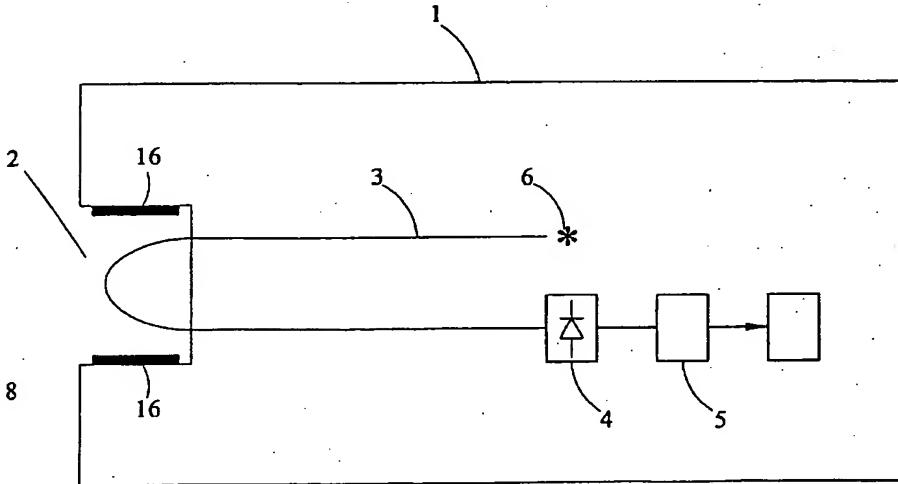
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(54) Title: SENSOR SYSTEM AND METHOD

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(57) **Abstract:** A sensor system for the detection or measurement relating to a chemical environment, comprising an optical fibre, an optical source for launching light into the optical fibre, the sensor system being adapted to let a gas, e.g. hydrogen derived from said chemical environment, diffuse into the optical fibre. The gas thereby alters the optical properties of the optical fibre. The system comprises optical signal detection and signal analysing means adapted for determining changes in the optical properties of the optical fibre due to the in-diffusion of the said gas. The signal analysis means is adapted to derive from the determined changes at least one characteristic value representing the chemical environment.